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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,281	09/11/2003	Shigeki Maekawa	028433-012	5683

21839 7590 03/29/2004

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EXAMINER
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NGUYEN, VINH P

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/659,281

Applicant(s)

MAEKAWA ET AL.

Examiner

VINH P NGUYEN

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/11/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

Art Unit: 2829

1. In Applicants' remarks, it appears that Applicants indicated that claims 1 and 4 are read on species of figure 6. Examiner believes that species of figure 6 has been elected by Applicants for examination.

2. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is unclear from the specification does not have support for the material of "an electrically deformative insulating material" as recited in claims 1 and 4, therefore it is unclear what it is.

It also appears that the specification does not have support for the limitation of "the electrode are shaped like a protrusion which can be engaged with the probes of the recess like shape or a recess, which can be engaged with the probes of the protrusion like shape" as recited in claim 3.

3. Claims 2,5-7 and 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2,5, it is unclear what "two type of the electrodes" represent. Are they different from the electrodes in claim 1. Furthermore, it is also unclear how two type of the electrodes are interrelated and associated with the electrodes.

In claims 6-7, it is unclear what "a guiding member" represents. Is it shown in figure 6?

In claims 12-16, it is unclear what has been claimed. It appears that the connecting sheet is a part of the test socket, therefore it is in the test socket .

4. The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2,4 and 8-12 are rejected under 35 U.S.C. 102 (b) as being anticipated by Akram et al (Pat # 6,107,109).

As to claims 1,4, Akram et al disclose in figure 1D an interconnect (40) having an insulating connecting substrate/sheet (10) with a plurality of electrodes (32) for electrically connecting the probes (see column 7, lines 10-15) to the outer connecting terminals (18) of the semiconductor device BGA (20) (as shown in figure 3). From figure 3, it is noted that the electrodes (32) includes a plurality of protrusions and recesses.

As to claim 2, it appears that the electrodes (32), are connected through electrically connecting holes (34,36) as shown in figure 3.

As to claims 8-9, it appears that the electrodes (32) has a space portion (discontinued portion in which the electrical through hole (32,34) is disposed) and a bending portion (protrusion).

As to claims 10-11, it appears that the through hole (32,34) is formed in a part of the connecting sheet (10).

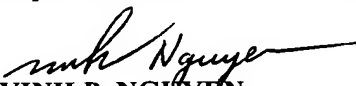
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Akram et al (Pat # 6,373,273) discloses test inserted containing vias for interfacing a device containing contact bumps with a test substrate.

Farnworth et al (Pat # 6,620,731) disclose method for fabricating semiconductor components and interconnects with contacts on opposing sides.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is (521)-272-1964.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

  
VINH P. NGUYEN  
PRIMARY EXAMINER  
ART UNIT 2829

03/12/04